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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of

Redevelopment of Spectrum to
Encourage Innovation in the
Use of New Telecommunications
Technologies

Amendment of the Commission's
Rules to Establish New Personal
Communications Services

E.T. Docket No. 92-9
RM-7981
RM-8004

GEN Docket No. 90-314
RM-7140, RM-7175,
RM-7618

**UTAN COMMENTS ON EMERGENCY PETITION
AND PETITIONS FOR RECONSIDERATION AND/OR CLARIFICATION**

UNLICENSED PCS AD HOC COMMITTEE
FOR 2 GHz MICROWAVE TRANSITION
AND MANAGEMENT

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EXECUTIVE SUMMARY

UTAM hereby submits its comments on the pending petitions for reconsideration and/or clarification of the Third Report and Order in ET Docket No. 93-9, as well as the Emergency Petition filed by Apple seeking a change in the Commission's spectrum allocation for unlicensed PCS devices. As the conditionally designated frequency coordinator for the unlicensed PCS spectrum, UTAM is proceeding to develop its relocation financing and management plans for Commission review. UTAM accepts and will comply with whatever rules the FCC ultimately adopts in these proceedings, but seeks an expeditious finalization of those requirements so that the industry can move forward. Thus, although it takes no position on most of the issues raised by petitioners, UTAM wishes to advise the agency of the implications of certain of the requested changes.

Initially, UTAM agrees with a number of petitioners that tax certificates will facilitate voluntary relocation of microwave licensees and reduce costs from delays in unlicensed PCS deployment. Accordingly, they should be made available to microwave licensees relocating from the unlicensed spectrum where a relocation agreement is reached without resort to dispute resolution mechanisms.

The FCC should also be aware that expanding the scope of the public safety exemption from involuntary relocation will

increase band clearing costs. It would likewise delay the introduction of non-coordinatable unlicensed PCS data and voice devices by lengthening the clearing process.

Additional information is required to assess the consequences of Apple's retuning proposal. Specifically, clarification is needed concerning the technical feasibility of retuning, the availability of spectrum for retuned systems, the basis for Apple's estimate of retuning costs, and the assignment of responsibility for the costs of the subsequent relocation of retuned systems from PCS spectrum to other bands. Absent this information, the FCC cannot determine whether retuning will have a positive or negative impact on UTAM's spectrum management obligations.

Apple's Emergency Petition proposal to give nomadic devices the less-encumbered spectrum at 1910-1930 MHz also requires clarification. In particular, Apple does not address the funding implications of its proposal for either unlicensed data or voice products. Nor does Apple address the effects of its proposed changes on the band clearing and deployment process.

Depending upon how these critically important issues are resolved, several scenarios for unlicensed PCS systems and devices are possible. The public interest ramifications of these proposals must therefore be carefully and promptly evaluated.

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**UTAM COMMENTS ON EMERGENCY PETITION
AND PETITIONS FOR RECONSIDERATION AND/OR CLARIFICATION**

The Unlicensed PCS Ad Hoc Committee for 2 GHz Microwave Transition and Management ("UTAM") herewith submits its comments on petitions for reconsideration filed in ET Docket No. 92-9 and an Emergency Petition filed by Apple Computer, Inc. ("Apple") in GEN Docket No. 90-314.¹ The petitions seek changes in the Commission's ground rules for relocation of incumbent microwave licensees from the 2 GHz emerging technologies frequencies as well as the rules governing allocation and use of unlicensed Personal Communications Service spectrum ("Unlicensed PCS"). As detailed below, the Commission's disposition of these petitions will have significant ramifications for ongoing UTAM efforts to develop a comprehensive and equitable plan to fund relocation costs and

¹ See Apple Computer, Inc. Petition for Reconsideration, ET Docket No. 92-9 (filed Sept. 3, 1993) ("Apple Petition for Reconsideration"); Apple Computer, Inc. Emergency Petition, GEN Docket No. 90-314 (filed Sept. 13, 1993) ("Apple Emergency Petition").

clear spectrum for unlicensed PCS as rapidly as possible. Accordingly, expedited and definitive action on these petitions is essential to avoid delays and uncertainties that might retard industry efforts to ensure timely and effective introduction of all forms of unlicensed data and voice capabilities for American consumers.

I. STATEMENT OF INTEREST

On October 22, 1993, the Commission released its Second Report and Order establishing rules for new Personal Communications Services.² With respect to unlicensed PCS, the Commission allocated 40 MHz of spectrum and adopted a spectrum etiquette for asynchronous and isochronous devices. In addition, the Commission designated UTAM "as the coordinator for the transition of the 1890 - 1930 MHz band from fixed microwave service to unlicensed PCS, conditioned on UTAM's submission and [the Commission's] acceptance of: 1) a funding plan that is equitable to all prospective manufacturers of unlicensed devices, and 2) a plan for 'band clearing' that will permit the implementation of nomadic devices and, in particular, nomadic PCS devices, as promptly as possible."³

² Amendment of the Commission's Rules to Establish New Personal Communications Services, FCC 93-451 (released Oct. 22, 1993) ("Second Report and Order").

³ Second Report and Order ¶ 88.

In response to the Second Report and Order, the Unlicensed PCS Ad Hoc Committee for 2 GHz Microwave Transition and Management is engaged in extensive efforts to develop a sound plan for funding and managing the relocation of incumbent microwave facilities from the unlicensed PCS allocations. Specifically, the following steps have been taken:

- Membership commitments to UTAM have been made by the following companies and organizations: Alcatel, American PCS LP, American Telephone & Telegraph Company, Andrew Corp., Columbia Capital Corporation, Ericsson, GE Mobile Communications, Harris Corp., Local Area Telecommunications, Inc., Metrocall, Motorola, North American Telecommunications Association, Northern Telecom, PCSI, SpectraLink, and Telocator.
- A recruitment drive is underway to ensure the fullest and broadest possible industry representation.
- Goldman Sachs has been retained as a financial advisor to UTAM.
- UTAM has solicited and received presentations from major consulting firms for a contract to conduct marketing demand studies upon which estimates can be made concerning the anticipated numbers and timing of unlicensed PCS sales, which affect the timetable for band clearing.
- UTAM is working with companies with microwave databases to plot maps of the U.S. showing where microwave links are at present and where unlicensed PCS systems and devices can be deployed.
- Weekly finance committee meetings are occurring.
- Monthly meetings are being held of an ad hoc committee of UTAM members, microwave interests and TIA members in conjunction with TIA's TR-14.11 Committee, which have made significant progress in addressing adjacent channel interference concerns.

- A preliminary list of positions and job qualifications criteria has been developed to assist in selecting and employing professional staff and an Executive Director.
- An open meeting of prospective UTAM, Inc., members will be held in Mesa, Arizona, on November 9, 1993, to review progress to date.
- The first organizational meeting of UTAM, Inc. - the non-profit corporation - is scheduled for December 7, 1993, in Boulder, Colorado.

Obviously, any Commission changes in either the unlicensed PCS or emerging technologies rules and policies can have an immediate and direct effect on efforts to develop a sound financing and relocation plan. Indeed, the very pendency of petitions seeking fundamental changes in the underlying rules creates risks and uncertainties. In this context, UTAM's approach and objectives cannot be finalized until the Commission's rules are finalized. For that reason, UTAM has a direct and important interest in the pending petitions for reconsideration and/or emergency relief.

II. PENDING PETITIONS FOR CHANGES IN THE EMERGING TECHNOLOGIES AND UNLICENSED PCS RULES AND POLICIES

In its Emergency Petition filed shortly before the adoption of the Second Report and Order, Apple requested that the agency reserve the 1910-1930 MHz band -- which has the lowest concentration of incumbent microwave users -- for the exclusive use of "nomadic" devices.⁴ Under Apple's proposal,

⁴ Apple Emergency Petition at 1.

no nomadic device would be permitted to use any part of the 1910-1930 MHz band until it is completely cleared of microwave stations.⁵ Other adjacent spectrum would be reserved for non-nomadic (i.e., coordinatable) PCS systems and devices that could be deployed upon demonstrations of site specific frequency coordination to prevent interference to microwave users.⁶ Finally, an allocation of two or more additional 10 MHz blocks in the 1850-1990 MHz band would be reserved for five years to accommodate microwave incumbents from either licensed or unlicensed PCS bands.⁷

Also pending before the Commission are petitions seeking reconsideration or clarification of the Third Report and Order in the Emerging Technologies docket.⁸ There, Apple seeks reversal of the FCC's refusal to adopt a proposal to relocate microwave incumbents from unlicensed spectrum through "retuning" their frequencies to other parts of the emerging technologies spectrum. Apple also urges the FCC to establish a date certain of one year after the close of the mandatory negotiation period by which all microwave incumbents will be relocated or retuned out of its proposed

⁵ Id. at 2.

⁶ Id.

⁷ Id.

⁸ See Innovation in the Use of New Technologies, FCC 93-351 (released Aug. 13, 1993) (ET Docket No. 92-9) ("Third Report and Order").

nomadic-PCS band. Finally, Apple states that tax certificates should be available to incumbents relocated from the unlicensed band.

A number of petitioners, including UTAM,⁹ agree with Apple that virtually all voluntarily relocating fixed microwave licensees should be eligible for tax certificates.¹⁰ Other petitioners support expansion of the public safety microwave classification to exempt additional licensees from mandatory relocation.¹¹ Several also seek changes to the timing of the voluntary and mandatory negotiation periods established by the Commission or other details of the Third

⁹ UTAM Petition for Clarification and/or Reconsideration, ET Docket No. 92-9, at 1 (filed Oct. 4, 1993) ("UTAM Petition").

¹⁰ E.g., Petition for Reconsideration and Partial Clarification of the Association of American Railroads, ET Docket No. 92-9, at 1 (filed Oct. 4, 1993); UTAM Petition at 1; Petition for Reconsideration of Utilities Telecommunications Council, ET Docket No. 92-9, at 5-7 (filed Oct. 4, 1993) ("UTC Petition") (broader availability of tax certificates).

¹¹ E.g., Petition of The Forestry - Conservation Communications, Ass'n for Partial Reconsideration, ET Docket No. 92-9, at 2 (filed Oct. 4, 1993); Petition for Clarification or Reconsideration From The Public Safety Communications Council, ET Docket No. 92-9, at 2-3 (filed Sept. 29, 1993); Petition for Partial Reconsideration of The Public Safety Microwave Committee, ET Docket No. 92-9, at 1-3 (filed Oct. 4, 1993); Statement of APCO In Support of Petitions for Partial Reconsideration, ET Docket No. 92-9, at 1 (filed Oct. 4, 1993).

Report and Order.¹² To assist the Commission in evaluating these requests, UTAM below offers its views on the implications of the various proposals now under consideration for its relocation funding and management obligations.

**III. UTAM, ON BEHALF OF THE UNLICENSED PCS
INDUSTRY, IS COMMITTED TO ENSURING FAIR,
EQUITABLE AND RAPID DEPLOYMENT OF DATA
AND VOICE SYSTEMS AND DEVICES**

UTAM has scrupulously sought to maintain strict neutrality in any controversies concerning the specifics of the FCC's allocation policies and emerging technologies rules as they govern the deployment of unlicensed PCS systems and devices. UTAM fully recognizes and accepts its responsibility to represent the interests of the unlicensed PCS industry as a whole. To that end, UTAM has actively encouraged participation from all segments of the industry, including large and small manufacturers of both data and voice equipment. No entity has ever been excluded from UTAM meetings. UTAM is and will remain open to participation by all interested parties, as documented in its filings with the Commission and

¹² E.g., Petition for Reconsideration of AMSC Subsidiary Corporation, ET Docket No. 92-9, at 3-5 (filed Oct. 4, 1993) (objecting to relocation rules application to 1970-1990 MHz and 2160-2180 MHz); Petition for Partial Reconsideration of Digital Microwave Corporation, ET Docket No. 92-9, at 2-3 (filed Sept. 13, 1993) (objecting to deadline for equipment manufacturing).

the obligations placed upon it by the Second Report and Order and related rule provisions.¹³

As mandated by the Commission, UTAM has a responsibility to ensure strict compliance with all FCC rules in order to protect microwave licensees from interference as well as to satisfy agency requirements associated with accommodating the relocation of those licensees from the unlicensed PCS spectrum. Consistent with those responsibilities, UTAM's goal is to ensure the fastest possible access of non-coordinatable systems and devices to that spectrum. UTAM accepts and will comply with whatever rules the FCC ultimately adopts in the PCS and Emerging Technologies rulemakings, but seeks an expeditious finalization of those requirements so that the industry can move forward.

As noted earlier, under the current rules, UTAM is required to develop sound financing and relocation plans to permit the removal of incumbent microwave licensees from the unlicensed PCS band to other frequencies. Thus, while UTAM takes no position on the proposed rule changes suggested by various parties in these proceedings (except for the availability of tax certificates), it believes that it is appropriate to advise the FCC on the funding implications of

¹³ Rules To Establish New Personal Communications Services, FCC 93-451 (released Oct. 22, 1993).

certain of those changes. UTAM's analysis of those consequences follows.

IV. THE COMMISSION SHOULD SERIOUSLY CONSIDER AND PROMPTLY RESOLVE ALL OF THE PETITIONS SEEKING TO FACILITATE DEPLOYMENT OF UNLICENSED PCS SYSTEMS AND DEVICES

A. UTAM Agrees With Apple That Tax Certificates Will Facilitate Voluntary Relocation of Microwave Licensees and Reduce Costs From Delays in Unlicensed PCS Deployment

As set out in UTAM's Petition for Reconsideration or Clarification, the Third Report and Order does not expressly authorize the use of tax certificates for relocating microwave licensees from the unlicensed PCS band.¹⁴ Tax certificates would have the beneficial consequences of eliminating certain costs attendant to a relocation for incumbent microwave licensees and encouraging early voluntary agreements, which would reduce the relocation cost burden on the unlicensed PCS industry. Thus, no sound reason exists for limiting the availability of tax certificates where the circumstances of the relocation are eligible for such treatment under applicable law.

Apple and a number of other petitioners likewise noted the lack of any justification for restricting the use of tax certificates. They point to the unfairness of disallowing

¹⁴ UTAM Petition at 1-2.

tax certificates for microwave systems in the spectrum allocated to unlicensed devices and the expectation that such certificates will greatly facilitate necessary band clearing.¹⁵ Accordingly, the record overwhelmingly supports the use of tax certificates for relocations from the unlicensed PCS band consistent with the policies adopted for licensed PCS. Specifically, tax certificates should be granted where a microwave licensee reaches a voluntary agreement to relocate without resort to dispute resolution procedures. The Commission should, therefore, clarify that they will be available on this basis.

**B. Expanding the Scope of the Public Safety
Exemption From Involuntary Relocation
Will Increase Relocation Costs By Requiring
Premiums and/or Delaying the Introduction
of Non-Coordinatable Unlicensed PCS Systems
and Devices**

A number of parties representing incumbent microwave interests seek an expansion of the public safety exemption from involuntary relocation. While UTAM takes no position on their requests, the Commission should be aware that any such expansion will have an impact on the costs and timeliness of clearing the unlicensed PCS band. As UTAM previously has advised, agreements for voluntary relocations by exempt licensees likely will require payments of premiums above

¹⁵ E.g., UTC Petition at 6; Apple Petition for Reconsideration at 11-12.

actual relocation costs. Obviously, the greater the number of exempt licensees, the greater the costs that will be incurred in band clearing. Moreover, unlicensed PCS is particularly vulnerable to excessive demands because complete band clearing is needed before nomadic devices can be deployed.¹⁶ Consequently, delays in reaching voluntary relocation agreements with exempt microwave licensees results in delays in unlicensed PCS deployment.

C. The Effects of Apple's Retuning Proposal Cannot Be Assessed Without Clarifications Concerning the Technical Difficulties and Costs of Implementation and the Responsibility For Bearing the Costs of the Subsequent Relocation of Retuned Microwave Systems From the 2 GHz PCS Band

From UTAM's perspective, adoption of Apple's retuning proposal could have either an extremely favorable or an extremely negative impact on its relocation funding obligations depending upon a number of factors not addressed or elaborated upon in its Petition. Simply stated, the information necessary to make an informed assessment is not yet in the public record. Therefore, several critical clarifications are needed.

First, clarification is needed concerning the technical feasibility of retuning, particularly for much of the older equipment in the field, and the availability of other

¹⁶ See Third Report and Order ¶¶ 19-27.

spectrum for retuned systems. The purpose of Docket No. 92-9 was, of course, to identify such new spectrum homes for 2 GHz microwave links. Moreover, additional information must be presented concerning the need and costs, if any, for facilities changes in microwave links outside of the unlicensed PCS spectrum to accommodate the introduction of retuned systems. This information is critical to an informed decision on the cost impact of the retuning proposal.

Second, clarification is needed concerning the basis for Apple's estimate that retuning costs will approximate \$15,000 per link.¹⁷ UTAM understands that other industry estimates have not been consistent with this amount, but is unable to evaluate its accuracy because of the lack of underlying data in Apple's submission. Absent such information, the magnitude of these costs cannot be assessed.

Third, clarification is necessary concerning who will bear the costs of the subsequent relocation of retuned microwave licensees from PCS spectrum to other bands. In its current form, Apple's petition does not address this issue, which is fundamental to evaluating the total costs to the unlicensed PCS industry of the relocation process. The effects of retuning on UTAM financing and relocation plans cannot be determined absent resolution of this issue.

¹⁷ Apple Petition for Reconsideration at 7, n. 13.

However, notwithstanding these uncertainties, UTAM agrees with Apple that there would not seem to be any reason why the Commission could not or should not approve consensual retuning in appropriate circumstances. Where the relocating microwave licensee, the affected PCS licensee, and UTAM reach a satisfactory, voluntary agreement to retune the microwave system as either an interim or permanent measure, the public interest would be served by allowing that agreement to be effectuated. Indeed, the availability of this option may serve both to expedite the relocation process and reduce the ultimate cost burden.

D. Apple's Emergency Petition Does Not Address the Funding Implications of Its Proposals

In its Emergency Petition, Apple proposes to allocate the 1910-1930 MHz band for "nomadic" devices and to bar deployment of any product in those frequencies until the entire band is cleared of all microwave licensees. Unfortunately, the Apple petition does not address a number of critical issues associated with its proposal to alter the basic spectrum allocation and funding approaches contemplated in the Commission's PCS Report and Order.

Specifically, UTAM believes that Apple should provide full and complete information relevant to the following concerns:

- How will funds be raised to pay for band clearing costs given the proposed ban on deployment of any devices until complete band clearing has occurred?
- How long would the band clearing process take before any products could be deployed?
- What is the difference between "nomadic" and "non-nomadic" data PCS?
- Why wouldn't the same device be deployable as either nomadic or non-nomadic if an RF infrastructure and disabling system are incorporated?
- What is the anticipated market demand for nomadic as opposed to non-nomadic data devices?
- Where, when and how would non-nomadic data devices be deployed under Apple's plan?
- What would be the effects upon funding band clearing for voice devices if the current "equal pain" approach that evenly divides the less heavily populated 1910 - 1930 MHz band between data and voice uses is replaced with allocation of the entire 1910 - 1930 MHz band for nomadic data and cordless phone devices?

Unless and until these questions are answered, neither the Commission nor UTAM can realistically assess the advantages or disadvantages of Apple's proposal. They are critically important issues that cannot be glossed over. The core issues of access to funding and rapid deployment of unlicensed PCS to the public are inextricably affected by the significant changes sought in the Emergency Petition. Once again, great care is required in evaluating the public interest ramifications of the proposals.

**E. Depending Upon Apple's Clarifications,
 Several Scenarios Are Possible**

The following sets out three possible scenarios for the deployment of unlicensed PCS systems and devices given the existing rules and the proposed changes that have been presented. As can be seen, there may be material changes in the total cost burden for relocation, the expected revenue streams to fund those costs, and the timing of permissible deployment of coordinatable and non-coordinatable systems and devices depending upon which rules are adopted.

SCENARIO 1: Under Current Rules and Allocations

FREQUENCIES	ALLOCATION	NUMBER OF LINKS	COST TO CLEAR	REVENUES AVAILABLE TO FUND RELOCATION PROCESS	TIMING OF INITIAL DEPLOYMENT
1890 - 1900 MHz	Voice	645	\$150-\$175 Million	Funds from deployment of coordinatable voice devices	Immediately upon coordination
1900 - 1910 MHz	Data	760	\$150-\$175 Million	Funds from deployment of coordinatable data devices	Immediately upon coordination
1910 - 1920 MHz	Data	221	\$30-\$45 Million	Funds from deployment of coordinatable data devices	Immediately upon coordination
1920 - 1930 MHz	Voice	226	\$30-\$45 Million	Funds from deployment of coordinatable voice devices	Immediately upon coordination

SCENARIO 2: Spectrum At 1910 - 1930 Is Allocated To Nomadic Devices

FREQUENCIES	ALLOCATION	NUMBER OF LINKS	COST TO CLEAR	REVENUES AVAILABLE TO FUND RELOCATION PROCESS	TIMING OF INITIAL DEPLOYMENT
1890 - 1900 MHz	Non-Nomadic	645	\$150-\$175 Million	Funds from deployment of coordinatable voice devices	Immediately upon coordination
1900 - 1910 MHz	Non-Nomadic	760	\$150-\$175 Million	Funds from deployment of coordinatable voice devices	Immediately upon coordination
1910 - 1920 MHz	Nomadic	221	\$30-\$45 Million	None	None until Band Cleared
1920 - 1930 MHz	Nomadic	226	\$30-\$45 Million	None	None until Band Cleared

SCENARIO 3: Retuning Is Adopted and Spectrum At 1910-1930 Is Reallocated To Nomadic Devices

FREQUENCIES	ALLOCATION	NUMBER OF LINKS	COST TO CLEAR	REVENUES AVAILABLE TO FUND RELOCATION PROCESS	TIMING OF INITIAL DEPLOYMENT
1890 - 1900 MHz	Non-Nomadic	645	<p>\$9 - \$10 Million for retuning*</p> <p>\$? for accommodation of returned facilities</p> <p>\$150 - \$175 Million for subsequent move out of 2 GHz band</p> <p>Total: Minimum \$160-\$185 Million</p>	Funds from deployment of coordinatable voice devices	Immediately upon coordination
1900 - 1910 MHz	Non-Nomadic	760	<p>\$11 - \$12 Million for retuning*</p> <p>\$? for accommodation of returned facilities</p> <p>\$150 - \$175 Million for subsequent move out of 2 GHz band</p> <p>Total: Minimum \$162-\$187 Million</p>	Funds from deployment of coordinatable voice devices	Immediately upon coordination
1910 - 1920 MHz	Nomadic	221	<p>\$3 - \$4 Million for retuning*</p> <p>\$? for accommodation of returned facilities</p> <p>\$30 - \$45 Million for subsequent move out of 2 GHz band</p> <p>Total: Minimum \$34 - \$49 Million</p>	None	None until Band Cleared
1920 - 1930 MHz	Nomadic	226	<p>\$3 - \$4 Million for retuning*</p> <p>\$? for accommodation of returned facilities</p> <p>\$30 - \$45 Million for subsequent move out of 2 GHz band</p> <p>Total: Minimum \$34 - \$49 Million</p>	None	None until Band Cleared

* Apple estimate, actual costs are unknown.

* * *

Because of the substantially different and, in certain respects, as yet unquantifiable consequences for the funding of the band clearing process under these scenarios, UTAM urges the Commission to take great care in addressing changes in its final rules in this proceeding.

V. CONCLUSION

UTAM cannot finalize the funding and band clearing plans which the Commission has required it to submit for public comment until the governing rules for the unlicensed band are settled. Any delays in finalizing those rules will, thus, inevitably delay the deployment of important new unlicensed PCS systems and devices. Accordingly, the Commission should

proceed promptly to resolve the pending petitions and adopt
final rules for unlicensed PCS.

Respectfully submitted,

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November 8, 1993

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